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EXAMINER	
BROWN, RUEBEN M	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/300,490	BENJAMIN ET AL.	
	Examiner	Art Unit	
	Reuben M. Brown	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20,30-55,66-70 and 75-78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *43-46* is/are allowed.

6)☒ Claim(s) *1-20,30-42,47-55,66-70 and 75-78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/6/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/3/05 has been entered.

Response to Arguments

2. Applicant's arguments filed 10/3/05 have been fully considered but they are not persuasive. Applicant argues that the references do not teach 'repeatedly reconstructing'. Examiner respectfully disagrees, and points out that the claimed feature still reads on progressive transmission. Inga is clearly directed to progressive transmission. The point of Inga is to transmit an image in portions or sections, and thus each transmission causes reconstruction/updating the image display. Thus the quality of the image display increases over time, see col. 12, lines 52-60. Inga specifically teaches, "the longer the user observes a selected image, the 'better' the image becomes in the sense of pixel resolution and quantity of gray levels".

Inga goes on to disclose in the same paragraph, "then the telecommunications means 18 transmits more precise pixel detail...", col. 12, lines 60-67. Thus, it is clear that the image that is viewed by the subscriber in Inga is repeatedly reconstructed or updated, thereby improving the quality of the image.

Applicant generally argues that it would not have been obvious to utilize JAVA of the prior art to manage the image display apparatus. Examiner respectfully disagrees and points out that the JAVA applet is applicable to systems that desire to have remote (distant) control of a computer terminal without requiring two-way communication during the process. Thus it would have been obvious to use JAVA for any (dedicated type) application that runs on a remote computer.

Applicant argues that progressive transmission does not conserve bandwidth. Examiner points out that to the extent that in progressive transmission, it is not required to transmit the whole image at particular point in time; thus instantaneous bandwidth is conserved, for a particular duration of time. For instance, a plurality of lower resolution frames may be transmitted (which require less bandwidth), instead of sending one high-resolution frame, which takes up more bandwidth.

Applicant argues that D1-D4 does not explicitly teach JAVA for progressive. Examiner agrees, but points out those references teach that JAVA may be used for a range of different applications. For instance, on page 346, Bitti teaches, "There are currently some alternate ways

to implement network based computing. Almost all of them are based on ***extending the WWW*** with mechanism for secure download and safe execution of ***hardware-platform independent programs***. JAVA is an object-oriented language specifically designed for this kind of applications. It is rapidly emerging as a de-facto standard for the development of NBC applications", emphasis added. Furthermore, examiner notes that claim 16 appears to recite that the JAVA language relates to an image selection software, based on its dependencies from claim 14 & claim 3, instead of the progressive transmission as argued by applicant.

Subramanian discloses in col. 9, lines 40-45, "the information management system can be augmented by tools or helper applications on the client workstation. The user's web browser on demand may spawn helper applications. The helper applications may be used to either display data that the browser is incapable of displaying, or to place data within a secondary application for manipulation", which reads on the claimed subject matter, Subramaniam, col. 11, lines 35-45.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-20, 30-36, 47-55, 66-70 & 75-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam, (U.S. Pat # 5,859,972), in view of, Inga, (U.S. Pat # 5,416,602).

Considering amended claim 1, the claimed interactive method for allowing a user to obtain image data for diagnostic purposes from a server having access to stored data, comprising connecting a user's computer to the server over a communications network is met by the disclosure of Subramaniam, which teaches a system wherein client computer accesses medical images from a server computer over the Internet, see Fig. 1; Fig. 14; col. 4, lines 1-25 & col. 12, lines 1-15.

The additionally claimed step of receiving from the server image reconstruction software for the user's computer reads on the disclosure of Subramaniam that helper applications or tools may be transmitted to a client computer's browser, see col. 11, lines 38-48 & col. 12, lines 59-67. Subramaniam furthermore discloses that the helper applications or tools may be in the form of JAVA applets, which are executable code transmitted from a server to a client that enhance the capability of browsers to view biological or medical data that is transmitted in a format unable to be displayed by the client's browser, also see col. 9, lines 41-62.

The operation of users 13 & users 149, of requesting a biological or medical data from a server 18 or server 150, see Fig. 1 and Fig. 14, respectively, reads on the claimed step of requesting specific image data over the network, (col. 4, lines 1-67; col. 5, lines 10-50; col. 12, lines 1-35 & col. 13, lines 1-20). Subramaniam meets the claimed feature of transmitting the requested image data over the network from the server to the user's computer, col. 9, lines 61-63. The previously cited operation of the helper applications and tools, which may be downloaded

and attached to a client's browser, also reads on the claimed feature of reconstructing a diagnostic quality image from the received image data using the reconstruction software, see col. 9, lines 40-62 & col. 11, lines 38-48.

Regarding the additional limitation of progressively transmitting the image data, Subramaniam teaches that medical images may be transmitted to clients, but progressive transmission is not necessarily disclosed.

Inga discloses the very well known hierarchical encoding/decoding and progressive transmission; see Abstract; col. 5, lines 21-24; col. 12, lines 29-68 & col. 16, lines 22-34. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Subramaniam with the technique of progressive image transmission, as taught by Inga, for the desirable benefit of reducing the amount of bandwidth needed at a given time to transmit the image, since the whole image is not immediately transmitted, see Inga col. 12, lines 21-29

It is noted that Inga specifically discusses overcoming limited bandwidths of phone networks and mentions that when wide band networks are more readily available, that the disclosed bandwidth reduction techniques may become less important. Nevertheless, Subramaniam is directed to transmission of data over the Internet, which still utilizes PSTN networks to transmit much of its data, thereby still being constrained by bandwidth limitations.

As for the additionally claimed feature of, 'repeatedly reconstructing a diagnostic quality images, from the progressively received image data, at different quality levels', Inga also teaches the subject matter. In particular, Inga specifically teaches, "Progressive Image Enhancement or PIE utilizes the transmission time from the instant a first "crude" image is presented to the subscriber to the present time of observation to progressively enhance the quality of the presented image. The longer the user observes a selected image, the "better" the image becomes in the sense of pixel resolution and quantity of gray levels", see col. 12, lines 52-60.

Considering claim 2, the subject matter recited in the instant claim reads on the operation of the helper applications; see Subramaniam col. 9, lines 41-62.

Considering claims 3-5, Official Notice is taken that at the time the invention was made, it was known in the art to transmit image selection software, such as generic GUI, graphical user interface to a client. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Subramaniam with the technique of downloading a user interface, such as a web browser to a client, at least for the known desirable advantage of upgrading the client's software, without having physically purchase a disk/CD-Rom and do a manual installation.

Considering claims 6-7, it would have been obvious to transmit both image selection and image reconstruction software to a client at the same time, at least in order save time and reduce the complication of separate software programs.

Considering claims 8-9, the claimed features read on the teachings of Inga of the user interactively changing the quality of image reception/display, col. 12, lines 29-52.

Considering claims 10 & 12, see Inga col. 16, lines 20-40.

Considering claim 11, even though Subramaniam/Inga discloses the use of the run-length coding compression algorithm, (col. 5, lines 24-26 & col. 7, lines 27-50) the instant recited technique is not discussed. Nevertheless, Official Notice is taken that at the time the invention was made, numerous other compression techniques were known in the art of data transmission. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Subramaniam with the known technique of bit reduction, at least for the benefit of reducing the amount of information transmitted in an image, thereby increasing its transmission speed over a network.

As for the gray scale component recited in claim 24, Inga discloses such a technique, col. 12 & col. 16.

Considering claims 13 & 75, the recited subject matter reads on Inga, col. 12, lines 30-52 & col. 17, lines 57-64.

Considering claims 14-17 & 70, the claimed device independent network programming language reads on the discussion of the HotJAVA in Subramaniam, col. 11, lines 38-47.

Considering claims 18-20 & 53-54, the claimed feature of progressively improving quality reads on Inga, col. 12, lines 28-67; col. 16, lines 1-40, which teaches that the image data is transmitted to the user terminal in layers, such that the received image improves in quality as more layers are received.

The additionally claimed feature of using the improved images quality to decide on the processing of the reads on the operation disclosed in Inga of selectively updating only a portion of the video image, col. 12, lines 28-35 & col. 18, lines 21-50. Interactively selecting regions of interest in the images based on the progressively improved images, also reads on the above-cited operation of Inga.

Considering claims 30-31, Official Notice is taken that at the time the invention was made, numerous algorithms were known in the art for adjusting the image quality of received data. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to operate the combination of Subramaniam & Inga such that any number of algorithms would be used to reduce the amount of information transmitted in an image, at least in order to present a more smooth transmission between image layers.

Considering claims 32-33 & 35, the recited feature of pyramidal composing of the image data, reads on the hierarchical arrangement of the layers of increasing resolution, see Inga, col. 12, lines 28-65.

Considering claim 34, even though Subramaniam & Inga do not discuss the claimed compression/resizing technique, Official Notice is taken that dropping rows of an image in order to resize an image, was known in the art It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of Subramaniam & Inga, with the feature of dropping alternating lines, at least for the known advantage in reducing the size of the image.

Considering claim 36, Inga discusses the transmission of data using compression, which requires decompression at the receiver.

Considering claim 47 & 49, Subramaniam uses the Internet; see col. 4, lines 1-10.

Considering claim 48, Official Notice is taken that dial-up connection was old in the art at the time the invention was made. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to use a dial-up connection, at least in order to utilize existing networking structures.

Considering claims 50-52, Official Notice is taken that thumbnail technology was well known in the art at the time the invention was made. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to operate Subramaniam & Inga by transmitting a catalog of thumbnail images at least for the known advantage of reducing the amount of bandwidth used to initially transmit the images.

Considering claim 55, Inga teaches transmitting images in layers. Inga also teaches that a user may select a particular portion of an image, at least for zooming, col. 12, lines 29-52 & col. 18, lines 35-50 lines. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to operate the combination of Subramaniam & Inga in a manner wherein either the background or foreground image is transmitted first.

Considering claim 66, in light of the further teaching that the server may download helper applications, since Subramaniam also teaches that helper applications could be spawned by the web browser, the claimed feature of requesting image data after receiving the image reconstruction software and within the same session is also provided by col. 9, lines 41-62.

Considering claims 67-68, the claimed subject matter of progressively reconstructed images corresponds with subject matter mentioned above, regarding claim 1.

Considering claim 69, it would have been obvious to transmit only certain data to subscribers from a network connection, at least for the benefit of providing an ease of transmission algorithm.

Considering claim 76, it would have been obvious to utilize an industry standard browser, at least in order to reduce the costs of customized software.

Considering claims 77-78, even though Subramaniam teaches the use of Java, the reference does not state that the images may be received in the same session as receiving the image reconstruction software. However, Using Netscape 2, teaches that an applet for decompressing data, may be downloaded at the same time as the data is accessed, see page 893. It would have been obvious for one of ordinary skill in the art a the time the invention was made, to operate Subramaniam in a manner wherein the image reconstruction software is received in the same session/after a use has selected the image data, for the desirable advantage of avoiding the PC user having to search for and download decompression software, instead these software are automatically downloaded, after the PC user selects the corresponding image file, as taught by Using Netscape 2.

5. Claims 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam, in view of Inga as applied to claim36 above, and further in view of Ward, (U.S. Pat # 5,793,735).

Considering claim 37-40, at the time the invention was made, encoding image data by predicting a pixel value, using the corresponding value of its spatial and temporal neighbors was known in the art and is taught by Ward, (Abstract; col. 3, lines 15-20; col. 4, lines 5-35; col. 4,lines 46-55. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Subramaniam to utilize the well-known spatial/temporal interpolation techniques at least for the desirable benefit of a more smooth presentation of the image data, as taught by Ward, see col. 1, lines 45-58.

6. Claims 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam, in view of Inga as applied to claim 36 above, and further in view of Hirabayashi, (U.S. Pat # 6,101,282).

Considering claims 41-42, at the time the invention was made, Golomb-Rice entropy encoding was well known in the art and is taught by Hirabayashi, col. 8, lines 42-48. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to operate the combination of Subramaniam & Inga, using the well known Golomb-Rice entropy encoding technique, at least for the desirable benefit of an efficient encoding algorithm.

7. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bitti, ('A WWW-based distributed system for medial data Analysis and 3D reconstruction', 1996), in view of Inga.

Considering amended claim 1, the claimed interactive method for allowing a user to obtain image data for diagnostic purposes from a server having access to stored data, comprising; '

'connecting a user's computer to the server over a communications network' is met by the disclosure of Bitti, which teaches a system wherein client computer accesses medical images from a server computer over the Internet, see page 345.

The additionally claimed step of, 'receiving from the server image reconstruction software for the user's computer', reads on the disclosure of Bitti that when the user clicks a button, the browser downloads the code for 3D graphical interface from the WWW server. Bitti refers to the graphical interface as 3D renderer software, which reads on the claimed subject matter, see page 346, section 2.

Bitti teaches that the system downloads medical images to the client's computer for viewing, which reads on the claimed feature of, 'transmitting the requested image data over the network from the server to the user's computer' see page 345-348. The operation of the previously cited renderer software, which may be downloaded and attached to a client's browser, also reads on the claimed feature of 'reconstructing a diagnostic quality image from the received

image data using the reconstruction software', see Bitti page 346 & page 349, section 2., & page 349, section 2.2

Regarding the additional limitation of progressively transmitting the image data, Bitti teaches that medical images may be transmitted to clients, and furthermore teaches that images may be refreshed, which updates the image presentation, based on the user's manipulation, see page 348, 1st paragraph. However, Bitti does not explicitly disclose progressive transmission.

Nevertheless, Inga discloses the very well known hierarchical encoding/decoding and progressive transmission; see Abstract; col. 5, lines 21-24; col. 12, lines 29-68 & col. 16, lines 22-34. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Bitti with the technique of progressive image transmission, as taught by Inga, for the desirable benefit of reducing the amount of bandwidth needed at a given time to transmit the image, since the whole image is not immediately transmitted, see Inga col. 12, lines 21-29

It is noted that Inga specifically discusses overcoming limited bandwidths of phone networks and mentions that when wide band networks are more readily available, that the disclosed bandwidth reduction techniques may become less important. Nevertheless, Bitti is directed to transmission of data over the Internet, (and for instance discusses the use of 28.8 K modems) which still utilizes PSTN networks to transmit much of its data, thereby still being constrained by bandwidth limitations, see page 348, section 2.1.

As for the additionally claimed feature of, 'repeatedly reconstructing a diagnostic quality images, from the progressively received image data, at different quality levels', Inga also teaches the subject matter. In particular, Inga specifically teaches, "Progressive Image Enhancement or PIE utilizes the transmission time from the instant a first "crude" image is presented to the subscriber to the present time of observation to progressively enhance the quality of the presented image. The longer the user observes a selected image, the "better" the image becomes in the sense of pixel resolution and quantity of gray levels", see col. 12, lines 52-60.

Considering claim 2, the subject matter recited in the instant claim reads on the operation of the 3D renderer software, Bitti, page 349, section 2.2

Considering claims 3-7, Bitti teaches that using the 3D renderer software, the user can choose, manipulate, overlay images, to select visualizing options, orientations in space, and lighting information, which reads on the claimed subject matter, page 348, 1st paragraph.

Considering claims 8-9, the claimed features read on the teachings of Inga of the user interactively changing the quality of image reception/display, col. 12, lines 29-52.

Considering claims 10 & 12, see Inga col. 16, lines 20-40.

Considering claim 11, even though Inga discloses the use of the run-length coding compression algorithm, (col. 5, lines 24-26 & col. 7, lines 27-50) the instant recited technique is not discussed. Nevertheless, Official Notice is taken that at the time the invention was made, numerous other compression techniques were known in the art of data transmission. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Subramaniam with the known technique of bit reduction, at least for the benefit of reducing the amount of information transmitted in an image, thereby increasing its transmission speed over a network.

Considering claim 13, the recited subject matter reads on Inga, col. 12, lines 30-52 & col. 17, lines 57-64.

Considering claims 14-16, the claimed device independent software using JAVA, reads on the discussion in Bitti of the "graphical interface applet", which is the same as the "JAVA applet". Bitti teaches that the JAVA applet is a hardware-platform independent application.

Considering claim 17, Bitti discloses the use of JAVA applets. Official Notice is taken that at the time the invention was made, it was known in the art that ActiveX protocols were similar to the JAVA functions. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of Bitti & Inga, in order to utilize known Active X protocols,. At least for the desirable advantage of the using the proprietary systems that use ActiveX, instead of JAVA.

Considering claims 18-20, 25 & 53-54, the claimed feature of progressively improving quality reads on Inga, col. 12, lines 28-67; col. 16, lines 1-40, which teaches that the image data is transmitted to the user terminal in layers, such that the received image improves in quality as more layers are received.

The additionally claimed feature of using the improved images quality to decide on the processing of the reads on the operation disclosed in Inga of selectively updating only a portion of the video image, col. 12, lines 28-35 & col. 18, lines 21-50. Interactively selecting regions of interest in the images based on the progressively improved images, also reads on the above-cited operation of Inga.

Allowable Subject Matter

8. Claims 43-46 are allowable over prior art of record.

Any response to this action should be mailed to:

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or faxed to:
(571) 273-8300, (for formal communications intended for entry)
Or:
(571) 273-7290 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F (9:00-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

REUBEN M. BROWN
PATENT EXAMINER

Reuben M. Brown